Clark (E. H.)

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DISEASE OF THE EAR,

FOLLOWED BY

ABSCESS OF THE BRAIN.

BY

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Boston, Mass.

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In the following case, the disease of the brain was probably the result of the inflammation of the middle ear, which attacked the periosteum of the tympanum. The inflammation then passed through that portion of the petrous bone lying near the upper wall of the tympanum to the dura-mater, and thence to the brain. The moisture and redness of the portion of bone described, and the adhesion of the dura-mater at that point, serve to mark the track of the disease.

This case illustrates the dangers attendant upon internal otitis, and the necessity of an early and vigorous treatment. If it had been possible to arrest the disease when it first attacked the ear, and before the bone, or rather the periosteum was invaded, the life of the patient would probably have been saved. Early and free leeching, with decided and continued counter-irritation, offer the greatest chance of safety in cases like the above.

The existence of so large a lesion of the brain without marked derangement of sensation or motion, is of considerable physiological interest. A portion of the right hemisphere, of the size of a hen's egg, was destroyed, without destroying motion or sensation of either half of the body. The slow pulse—48 in the minute—and the slow and intermittent respiration, which existed simultaneously for several days after the attack of April 5th, made me suspicious of disease of the cerebellum. The patient appeared as if the action of the heart and lungs was nearly paralyzed. At the autopsy the elevations of

the medulla oblongata were flattened by the pressure of the abscess upon them, and this was the probable cause of the slow pulse and breathing.

The treatment produced no result except the important one of relieving suffering. It is very likely that the paroxysms of intense pain, which appeared periodically for a few days when the pulse and respiration were the slowest, and which were apparently controlled by quinia, would have subsided of themselves. They were probably induced by an extension of the disease in the head, perhaps by the formation or increase of pus, and subsided as the brain became accustomed to the pressure. The bromide of potassium seemed to control the restlessness and delirium in a marked degree.

A. T., an American lad, æt. 15, was attacked, while at school in the country, with severe otalgia of the right ear, during the last week in January, 1867. The pain was intense and persistent, and, according to his own report, accompanied with tenderness and swelling of the right meatus, and pain in the ear with deglutition. He was confined to his bed for a week or more, and treated by a physician of the neighborhood. After a few days of suffering, the ear poured out a moderate discharge, and he obtained some relief. The relief, however, was not complete, and he came to Boston for advice. I saw him on the 16th of Feb., 1867. He was able to come to my house. The hearing and appearance of his left ear were normal. His right meatus contained a moderate amount of purulent matter. The walls of the meatus were red, and the surface of the membrana tympani presented a radiated, red appearance. Inflation of the cavity of the tympanum through the Eustachian tube produced, momentarily, a sharp pain in the affected ear. He heard the ticking of my watch only when it was pressed on the ear. He was then suffering from otalgia, especially at night, so that his sleep was disturbed. Two leeches were applied to the orifice of the right meatus. He was directed to instil into the ear a solution of a grain of sulphate of atropia in an ounce of water every hour or two, if there was pain; the solution to be warmed before applying it. He was put on a restricted diet, and kept quiet. Counter-irritation by means of croton oil was kept up on the mastoid process, directly after leeching.

At the same time he was ordered the iodide of potassium internally. The meatus was syringed often enough to keep it clean. He gradually and steadily improved. The membrana tympani assumed a normal appearance, and the pain disappeared. By the 7th of March he heard the ticking of my watch two or three feet from his right ear. He slept and ate well, and complained of no pain or discomfort. Excepting weakness, he seemed to be well. During this apparent convalescence, he had three short attacks of severe pain in the right side of the head and face. One took hold of the trifacial nerve, and yielded to the local application of aconite. Another seized the right supraorbital nerve, and yielded to veratria, not to aconite. The third attack showed itself back of the ear, and was accompanied with tenderness and swelling over the right mastoid process. This required leeching. All of these attacks were short, though severe. Excepting the weakness just referred to, he seemed to be fully convalescent by the 7th of March. On the morning of March 10th, he was attacked, without apparent cause, with intense headache, intolerance of light and sound, nausea and frequent vomiting. His

pulse soon became irregular, not intermittent, and feeble. His respiration was also slow, sometimes not more than eleven or twelve per minute. He had no cough. His respiration was vesicular. There was no tenderness over the liver or bowels. The latter were costive. The above symptoms persisted through the 10th, 11th, 12th, and 13th of March. They were apparently controlled, though not stopped, by the subcutaneous injection of morphia. During this period he was supported by enemas of beef-tea. Every form of nourishment, liquid or solid, that was tried by the stomach, he rejected. His pulse averaged about 60, though it was several times as slow as 48 and 50. The pupil of each eye acted normally. He had no delirium or intellectual disturbance.

The nausea began to abate on the 14th of March, and on the 17th he got and retained a little beef-tea with pepsin in it. He had a free dejection on the 17th after taking citrate of magnesia, the first for a week. He had another dejection on the 18th. At this time he seemed to be convalescing again. The intolerance of light had so far abated that he bore easily a subdued light in his chamber. He had no nausea or headache. He retained light food and took it with a relish; all opiates were omitted; and he slept quietly. During the night of the 19th he slept less easily than usual. Early in the morning of the 20th he complained of faintness, difficulty of breathing, and sharp pain in the back of his head and the upper part of his spine. These symptoms increased till they become violent, and were followed by delirium. One-fourth of a grain of sulphate of morphia was injected into his arm, and he became quiet in less than fifteen minutes, and fell asleep. Previous to the injection there was a return of nausea, vomiting, and intolerance of light and sound, in addition to the other symptoms enumerated. When asleep, his pulse was 64 and regular, and his respiratory movements normal. He awoke, after sleeping several hours, in a much more quiet condition, without delirium or pain in his head or back. He still had frequent nausea, and was abnormally sensitive to light and sound. He was kept very quiet, put upon a diet of crust coffee with milk and lime-water, and ordered 20 grs. of bromide of potassium every four hours. His bowels were moved by enemas.

From this time he seemed to convalesce again. He got the bromide every four hours for three days, then every five hours for two days, then every six hours for two days, and then twice in every twenty-four hours. His bowels were moved every other day. He slept an average of eight hours every night. His tongue, which had never been much coated, became clean. His diet was cautiously increased, and he was able to eat bread, meat, and milk. His appetite for hearty food was strong. Early in April, he walked moderately about his chamber, bore a sufficient amount of light, had a good pulse of 84, and complained of no sort of discomfort. He went to bed at his usual hour in the evening of April 5th, and went to sleep. A serenade from a band of music, under the windows of a neighboring house, which continued for about an hour, aroused him from sleep at 1 A.M. He soon complained of intense headache; in a short time he became delirious, and soon after began to vomit. He got 60 grs. of bromide of potassium in divided doses in the course of two or three hours, and then became quiet and went to sleep. He had a dejection during the day, ate very little, and by night was comfortable again. He went quietly to sleep in the evening of April 6th, and was awakened with intense headache and delirium at 1 A.M. of the 7th, almost exactly twenty-four hours after the previous attack. Presently he had nausea and then vomiting. His pulse was irregular and 48 in a minute. His respiration was also slow and abnormal (saccadé). I injected his arm with

half a grain of sulphate of morphia, and he directly fell asleep. Twenty grains of bromide of potassium were ordered every four hours; a cathartic of citrate of magnesia, and a diet of gruel. He got a long and quiet sleep, and awoke refreshed. His bowels moved freely. On the following morning he had another but less violent access of pain at about 2 A.M. After its subsidence the bromide of potassium was omitted and quinia was given. The first day he got 18 grs. in 12 hours, without any subsequent tinnitus, and with a moderate paroxysm of pain at about 2 A.M. The next day he got 24 grs. in 12 hours, with slight tinnitus and no paroxysm of headache in the morning. After this the quinia was gradually diminished, and at the end of a week it was discontinued. The pain in the head did not return. From this time he seemed to improve again. He had a good appetite; ate freely of ordinary food; slept well; the action of bowels and kidneys was normal. He began to ride out, and about the 20th of April he went to his sister's house in the country, two or three miles from Boston. He often said that, excepting weakness, he felt perfectly well. He had not, at that time nor previously, any paralysis of sensation or motion. In two or three days, however, he began again to complain of pain in his head. At this time the pain came on in irregular paroxysms, and was not severe. He fell down once, while walking out, but got up again easily. He got quinia and bromide of potassium again, but without relief. He referred the pain chiefly to the back of his head. It was accompanied with nausea and occasional vomiting. His pulse dropped from the neighborhood of eighty to between fifty and sixty. His respiration was slow and irregular. He had no delirium, and the pupil of each eye acted normally. His urine was normal, and his bowels were moved sufficiently by an enema.

Indeed, throughout his whole sickness, a dejection rarely occurred, except after an enema or a laxative. Soon after taking an enema, in the evening of April 25th, he apparently fell asleep, and died.

His death occurred about eleven weeks after I first saw him, and about fourteen weeks after the commencement of the difficulty in his ear.

Autopsy.—The head was examined thirty-six hours after death, by Dr. Calvin Ellis, who sent me the following report of the examination :—

"Dura mater much more vascular than usual. Arachnoid without the ordinary moisture. Convolutions of the upper surface of the brain flattened, as were also the elevations of the medulla oblongata. After the removal of the dura mater, the portion of the right hemisphere above the temporal bone bulged out in a remarkable manner, and was very soft to the touch. An incision showed white softening, which extended nearly to the posterior part of the hemisphere, and quite extensively in all directions around an *abscess* situated above the petrous portion of the temporal bone, of sufficient size to hold about two ounces of thick pus. The lateral ventricles contained considerably more serum than usual. The septum lucidum and walls were softened.

"At the base of the petrous portion of the temporal bone, on the right side, the inner table, to a limited extent, was destroyed, and at this point the dura mater adhered. The cells in the interior of the bone contained more moisture than those of the opposite side, and had a reddish tinge. The tympanum and ossicula remained."

My own notes of the examination say that the portion of diseased bone above described was adjoining or nearly over the tympanum, and that the aspect of the tympanum was healthy. The brain, except around the abscess, was normal.

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